Black Seed Oil: Benefits Backed by Science

By Julia Peterman - April 29, 2021

Nigella sativa grows in Southwest Asia, the Middle East, and Southern Europe. It produces fruit with blac "black seeds," are also called black cumin, black caraway, nigella, fennel flower, and Roman coriander (1 in traditional medicine for over 2,000 years.

Black seed oil is considered to have a variety of properties that may benefit health, neatly summarized i *Fixed Oil* (2). Top among them: anti-inflammatory effects. The oil contains thymoquinone, a compound t inflammatory pathway, according to the authors. It "prevents inflammation by inhibition of the COX patl suppressing TNF-a as well as IL-5 and IL-13 mRNA expression."

To break that down: COX stands for cyclooxygenase, an enzyme that forms compounds responsible for maintains the normal lining of the stomach and intestines, and is involved in kidney and platelet functio inflammation. NSAIDs, for instance, work by inhibiting both COX-1 and COX-2. COX-2-specific inhibitors l increasing risk of heart attack and stroke (3). NF-kB stands for "nuclear factor kappa-light-chain-enhance animal cell types. It is involved in cellular responses to stress, cytokines, free radicals, heavy metals, and response—but when mis-regulated, NF-kB is linked to inflammatory and autoimmune diseases and vira coordinates the inflammation process. Excess TNF—which healthy bodies block—can lead to unnecessa interleukins, regulating different portions of the immune response. So, to summarize: Thymoquinone di pathways.

Moreover, while there are plenty of things that work in theory, in a lab, or in rats, but not in humans, the evidence that black seed oil does benefit humans. One meta-analysis, published in *Journal of Food Bioc* and a total of 630 participants (6). The trials were looking at the effects of black seed oil in patients with rheumatoid arthritis to ulcerative colitis, and were measuring outcomes based on a number of different CRP, otherwise known as C-reactive protein, which rises in blood serum in cases of chronic inflammatio supplementation significantly alters levels of inflammatory markers, stating: "[Black seed] decreased infl markers, regardless of the type of disease." Further studies are needed, with larger numbers of particip researchers say, overall, evidence supports the consumption of black seed to reduce inflammation and

These anti-inflammatory properties aren't all black seed oil has going for it. A few more areas in which re

Blood Sugar

Research in this area is minimal, but one study, performed in 2011, achieved statistically significant resu two groups: one group received 2.5mg black seed oil twice daily, and the other received 2.5ml mineral o renal function, and HbA1C (a form of hemoglobin that is chemically linked to a sugar, allowing health ca levels) were all tested at baseline and at three months. Blood samples were drawn after 12 hours of fast test group at the beginning of the study was 102.4+/-20.8 mg/dl; at the end of the study, it decreased to other hand, blood sugar saw a slight increase. The difference between the two groups was statistically s seed oil group saw a statistically significant decrease, as well. In terms of safety, some subjects in the bla other reactions were noted, and liver and kidney function were not adversely affected.

The researchers noted that the mechanism of action here was not clear, citing previous studies that hav insulin sensitivity or that it could improve the action of the insulin. Another study, according to the resea stress due to black seed oil's thymoquinone content could have preserved pancreatic integrity, leading t seed oil has a number of bioactive constituents, all of which could be interacting with the human body i further clinical trials be performed, investigating the safety and efficacy of black seed oil in type 2 diabet

Cardiovascular

"The effects of *Nigella sativa* on plasma lipid concentrations are controversial," according to a 2016 meta To that end, the researchers conducted a review of 17 randomized controlled trials examining the effect plasma lipid concentrations, a measure of cholesterol (8). They found a significant reduction in total cho with black seed oil having a greater effect than powder. While further randomized clinical trials (RCTs) a

promising.

The same researchers conducted a second meta-analysis examining the effects of black seed on blood p
860 hypertensive or normotensive individuals. They found that systolic and diastolic blood pressure ave
duration of 8.3 weeks, as compared to control groups. In this case, powdered black seed showed a grea
seed oil. However, the researchers noted that more research is needed, both to strengthen existing evic
black seed on blood pressure.

Cognitive

There is minimal research in this area, but what's there is promising. A 2013 study published in the *Jour*
participants randomly into a treatment group, which received 500mg black seed twice daily for nine wee
placebo (10). Neuropsychological tests were performed on all volunteers twice before treatment and aft
test, and a visual attention/task switching test. The test group saw significant improvement in all tests w
adverse reactions.

BSO and COVID-19?

Researchers have considered the use of black seed oil in cases of COVID-19. Researchers decided to lo
people have consumed black seed oil in an attempt to combat COVID-19, including the Governor of Oy
but preliminary: At press time, there's only one study regarding this matter, and it was done in silico—

The researchers note in the study that there are certain components of the coronavirus that are neces
binds to human cell receptor ACE2 in order to produce RNA and proteins that allow the virus to prolife
ACE2—preventing the virus from binding to human cells and proliferating—are of great interest, when
and decreasing severity of the disease. For instance, Remdesivir, the only drug currently approved to t

For the study, published in Bulletin of the National Research Centre in March 2021, researchers extrac
phytochemicals, and then modeled how they would interact with target proteins on the coronavirus (1
bergamotene both bound to coronavirus proteins, and b-bisabolene bound to ACE2; specifically, the re
"The binding affinity of b-bisabolene… was almost similar to Remdesivir… on the ACE2 target." If that w
observe, b-bisabolene could prevent the virus from binding with the ACE2 protein in the human host c
was performed using computer software, not in humans, and it hasn't been repeated. As always, custc
take with a healthcare provider.

Hair and Skin

Black seed oil offers more benefits than just general wellness—it may be useful for skin care and hair ca
benefits for psoriasis, inflammation, and acne reduction, as well as improving skin moisture and hydrati
mixture of coconut oil and black seed oil was effective enough in promoting hair growth to justify furthe
containing *Nigella sativa* resulted in a reduction of hair fallout. To promote stronger hair growth, expert
60 minutes on the scalp (12).

And preliminary research suggests...

There are a couple areas of research wherein scientists are beginning to explore the potential of black s trials yet. Some promising findings in animal studies:

Immune. A 2009 study looked at a rat model of allergic airway inflammation: 10 rats served as a contro and 10 rats were given an allergic reaction and treated with black seed oil (13). The findings showed tha response," by reducing the number of inflammatory compounds including macrophages and lymphocyt

Mood. A 2014 study published in *Scientia Pharmaceutica* gave black seed oil to rats for four weeks (14). levels of tryptophan, suggesting a "potential antidepressant-like effect," according to the researchers.

A Sampling of Options

There are several available, each with their own perks. HealthAid America offers a high-dose Black Seed as salad dressing; the product's Supplement Facts label details omega-3, -6, and -9 content, as well as th of precisely what the user is getting in each teaspoon. Bio Nutrition offers soft gels—two a day deliver 1, Black Seed Oil Gelcaps, containing a proprietary blend of black seed oil along with fennel seed essential support.

Black seed oil, quite clearly, has potential to support general health and wellness across a wide spectrur healthcare providers about any supplement they take—black seed oil in particular may interreact with s Coumadin, and beta-blockers including metoprolol, sold as Lopressor). And while taking it for three mor side effects, according to Healthline, in one study, one teaspoon of black seed oil per day for eight week participants (1), and there's minimal research on larger doses and longer durations.

With its long history of traditional use, strong science support, and some intriguing preliminary researcl ancient flower continues to grow. Looking for more information and an expert's thoughts? Listen to Ste the benefits with Dr. Cass Ingram, author of *The Black Seed Miracle* (15). **WF**

References

1. Natalie Butler, "What Is Black Seed Oil? All You Need to Know," Posted 05/08/2020. Accessed 04/01/2(seed-oil
2. Mahmoud Balbaa *et al.,* "Black cumin (Nigella sativa) Chemistry, Technology, Functionality, and Applic of Nigella sativa Fixed Oil," 361-379. 2021. https://link.springer.com/book/10.1007%2F978-3-030-487
3. Carol Eustice, "The Pros and Cons of Cyclooxygenase (COX)," *Verywellhealth*. Updated 11/22/2019. Ac https://www.verywellhealth.com/cyclooxygenase-cox-1-and-cox-2-2552188
4. "NF-kB." *Wikipedia*. Last Updated 01/31/2021. Accessed 03/17/2021. https://en.wikipedia.org/wiki/NF-
5. Carol DerSarkissian, "How Does TNF Cause Inflammation?" WebMD. Posted 08/25/2020. Accessed 03. arthritis/how-does-tnf-cause-inflammation
6. Somaye Fatahi *et al*., "The effect of nigella sativa on biomarkers of inflammation and oxidative stress: randomized controlled trials," *Journal of Food Biochemistry*. 2021. https://doi.org/10.1111/jfbc.13625
7. Mohtashami *et al.,* "Blood Glucose Lowering Effects of *Nigella Sativa* L. Seeds Oil in Healthy Volunteer Controlled Clinical Trial," *Journal of Medicinal Plants.* 10(39). 90-94(2011). http://jmp.ir/files/site1/user 790fd6c.pdf
8. Amirhossein Sahebkar *et al*., "*Nigella sativa* (black seed) effects on plasma lipid concentrations in hur randomized placebo-controlled trials," *Pharmacological Research*. 106. 37-50(2016). https://www.sciencedirect.com/science/article/abs/pii/S1043661815302127
9. Amirhossein Sahebkar *et al.,* "A systemic review and meta-analysis of randomized controlled trials in *Nigella sativa* (black seed) on blood pressure," *Journal of Hypertension*. 34(11). 2127-2135(2016). https://journals.lww.com/jhypertension/Abstract/2016/11000/A_systematic_review_and_meta_analys
0. Muhammad Shahdaat Bin Sayeed *et al.,* "The effect of Nigella sativa Linn. Seed on memory, attention *Journal of Ethnopharmacology*. 148(3). 780-786(2013). https://pubmed.ncbi.nlm.nih.gov/23707331/
1. Scott Frothingham, "Is Black Seed Oil Good for Hair?" Posted 05/23/19. Accessed 04/05/2021. https:// hair
2. Briana Mercado, "The Many Benefits of Black Seed Oil," *WholeFoods Magazine.* Posted 04/21/2017. A https://wholefoodsmagazine.com/blog/many-benefits-black-seed-oil/
3. Muhammad Shahzad *et al.,* "Black seed oil ameliorates allergic airway inflammation by inhibiting T-ce *& Therapeutics*. 22(1). 37-43(2009). https://www.sciencedirect.com/science/article/abs/pii/S10945539
4. Tahira Perveen *et al*., "Increased 5-HT Levels Following Repeated Administration of *Nigella sativa* (Bla Rats," *Scientia Pharmaceutica*. 82(1). 161-170(2014). https://www.mdpi.com/2218-0532/82/1/161
5. Steve Lankford, "Dr. Cass Ingram Discusses the Benefits of Black Seed," *WholeFoods Magazine.* Poste https://wholefoodsmagazine.com/multimedia/podcast/dr-cass-ingram-discusses-the-benefits-of-blac
6. Chidi Edbert Duru, Ijeoma akunna Duru, Abayomi Emmanuel Adegboyega, "In silico identification of potential inhibitors of SARs-CoV-2 targets," *Bulletin of the National Research Centre*. 45. 2021. https:/ 00517-x

Julia Peterman